

What is claimed is:

1. A method for filling at least one hole in a printed wiring board, the method comprising the steps of:

applying photoresist material to a first side and a second side of the board;

5 exposing a portion of the photoresist material on the first side of the board to developing light, wherein the portion of the photoresist material on the first side of the board that is not exposed to developing light covers an opening of the hole on the first side of the board;

exposing the photoresist material on the second side of the board to developing light;

10 washing the board to remove unexposed photoresist material, wherein the unexposed photoresist material that covers the opening of the hole on the first side of the board is removed;

plating the inner surface of the hole in the board with a conductor;

wherein the photoresist material substantially prevents the conductor from being plated on the first and second sides of the board.

2. The method of claim 1, wherein the conductor is copper.

15 3. The method of claim 1, wherein the plating step is electroplating.

4. The method of claim 1, wherein the diameter of the hole is less than about 0.02 inches.

5. The method of claim 4, wherein the diameter of the hole is less than about 0.01 inches.

7. The method of claim 1, wherein the aspect ratio of the hole is greater than about 7.

8. The method of claim 7, wherein the aspect ratio of the hole is greater than about 10.

20 9. The method of claim 1, wherein the hole is substantially filled with the conductor.

10. A printed wiring board comprising a filled hole, wherein the filled hole is filled by the method of claim 1.
11. A printed wiring board comprising a filled hole, wherein the filled hole is filled by the method of claim 2.
- 5 12. The printed wiring board of claim 10, wherein the diameter of the filled hole is less than about 0.02 inches.
13. The printed wiring board of claim 12, wherein the diameter of the filled hole is less than about 0.01 inches.
14. The printed wiring board of claim 10, wherein the aspect ratio of the filled hole is greater  
10 than about 7.
15. The printed wiring board of claim 14, wherein the aspect ratio of the filled hole is greater than about 10.
16. The printed wiring board of claim 10, wherein the hole is substantially filled with the conductor.
- 15 17. An apparatus for filling at least one hole in a printed wiring board, the apparatus comprising:
- a means for applying photoresist material to a first side and a second side of the board;
  - a means for exposing a portion of the photoresist material on the first side of the board to developing light, wherein the portion of the photoresist material on the first side of the board that  
20 is not exposed to developing light covers an opening of the hole on the first side of the board;

a means for exposing the photoresist material on the second side of the board to developing light;

a means for washing the board to remove unexposed photoresist material, wherein the unexposed photoresist material that covers the opening of the hole on the first side of the board is  
5 removed;

a means for plating the inner surface of the hole in the board with a conductor;  
wherein the photoresist material substantially prevents the conductor from being plated on the first and second sides of the board.

18. The apparatus of claim 17, wherein the conductor is copper.

10 19. The apparatus of claim 17, wherein the plating step is electroplating.

20. The apparatus of claim 17, wherein the diameter of the hole is less than about 0.02 inches.

21. The apparatus of claim 20, wherein the diameter of the hole is less than about 0.01 inches.

15 22. The apparatus of claim 17, wherein the aspect ratio of the hole is greater than about 7.

23. The apparatus of claim 22, wherein the aspect ratio of the hole is greater than about 10.

24. The apparatus of claim 17, wherein the hole is substantially filled with the conductor.